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SHAZAM

Part I: About the Business

- SHAZAM, founded in 1976, is a national member owned financial services and payment processing company.
- Every night they MUST reconcile approximately \$100,000,000 in transactions with the Federal Reserve
 - They process about 85 million transactions a month
 - 20 milliseconds from the time you ‘dip’ (swipe) your card and enter a pin is the processing time to check who you are, what you wish to do, what institution, check your card limits, daily purchases, run a fraud check and approve/deny the transaction
 - They design front end/back end applications using Java and C++
 - They manage multiple databases using a variety of tools.

Part II: Job Specifics

- SHAZAM must be able to process data from a variety of different sources: ATM machines, merchants, banks, online purchasing, Google and Apple Pay, etc.
- SHAZAM must provide secure and consistent transactions
- SHAZAM must update databases
- SHAZAM must meet tight deadlines for reconciling transactions every evening

Part III: Introduce the Problem

- The task will be to accept or deny a transaction. Students will
- Read a potential transaction from a data file
 - Verify the routing number is correct (fraud protection)
 - Verify there are funds available for the account
 - Accept or deny the transaction
 - Update the data file

Part IV: Background

- Students will need to learn
- How to read and write data from a file
 - How to verify the routing number using a ‘check’ digit
 - Apply decision structures (if, if- then, etc)
 - Apply looping structures
 - Apply a search
 - Use cooperation to divide and conquer the task

Part V: Business Solution

- The business would use a complex database to read and write data.
- The business would use unique key field to process and track the correct account
- To verify the check digit in a routing number SHAZAM would use a pre-built routine . They would also use built in fraud routines.

Part VI: Student Solutions

- Students will use a text file for processing(reading and writing data)
- Students will use a loop to process each digit in the routing numbers and verify the check digit
- Students will need to make decisions based upon their check digit results
- Students will need to search the data file to update the correct account